Are You Ready for 1 Trillion Drone Trips!

Rudy Banerjee - IUPUI **2:00 - 2:50 pm**

Bio:

Dr. Aniruddha "Rudy" Banerjee, Assistant Professor, Department of Geography, Indiana University, Purdue University at Indianapolis (IUPUI), and Research Fellow, Prevention Research Center, Berkeley, CA. His interests are in spatial and computational statistics, spatial econometrics, decision support systems, and applied operations research (environmental and population health).

Rudy Banerjee earned his Bachelor of Architecture degree from Bengal Engineering College-University of Calcutta India. Migrating to the United States, he earned an MS degree in Urban and Regional Planning and his doctorate in Geography (environmental epidemiology and GISc) from the University of Iowa. He also has a Graduate Certificate in Transportation Studies from that institution.

Abstract:

The National Household Travel Survey show how Americans take 411 billion daily trips a year covering 4 trillion miles — at 14,500 miles per person. With the promise of drones, we may make fewer personal trips in the future but we will trigger billions of trips once the tipping point price drops below traditional transportation costs. However, FAA restricts drone flights to the 200-400 feet range and bans use over terrestrial private property.

One possible solution is to develop a drone 'architecture' that incorporates a fully developed GIS and simulation software for terrestrial transport and 'upgrade' it to suit 3D transport. We present a series of geospatial design initiatives, borrowed from terrestrial transport geography (2D in nature) that is adapted for a 3D electric transport architecture. Essentially, our solution entails 'hacking' a 2D GIS simulation software for transport to solve 3D electric transport needs.

We show, using a series of urban and rural areas of the US that can accommodate incredibly high numbers of drones without violating FAA regulations, disrupting airspace ambience and most importantly -- crashing into private property or harming human life. https://docs.google.com/presentation/d/1aEoRb5jTFB6iavt-06uwJEAuWomoA7ZqpRKTT1bR4oU/edit?usp=sharing

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